2/2 020 UNCLASSIFIED

CIRC ACCESSION NO--AP0122277 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE LAST 12 YEARS THE AUTHORS OBSERVED 13 PATIENTS WITH MONDOR'S DISEASE IN THE PENIS. CLINICAL MANIFESTATIONS OF THE DISEASE CONSISTED IN STRANDS IN THE INNER FOLD OF THE PREPUCE AND IN THE CORONAL SULCUS, OF DENSELY ELASTIC CONSISTANCE AND SLIGHTLY TENDER UPON PALPATION. SOMETIMES THE SURFACE OF THE SKIN ABOVE THE STRANDS UNDERWENT EROSION OR WAS ULCERATED AND IN THESE CASES THE CLINICAL PICTURE WAS SIMILAR TO THAT OF INDURATED CHANCRE. A CAREFUL CLINICAL AND LABORATORY EXAMINATION IN THE HOSPITAL AND SUBSEQUENT CLINICAL SEROLOGICAL FOLLOW UP FOR 6-12 MONTHS PERMITTED TO EXCLUDE SYPHILIS, IN THESE PATIENTS COMPLETELY. IT IS EMPHASIZED THAT MONDOR'S DISEASE MAY NOT INFREQUENTLY SIMULATE PRIMARY SYPHILIS WHEN LOCALIZED IN THE PENIS. IN SUCH CASES A COMPLEX CLINICAL LABORATORY EXAMINATION MUST BE CARRIED OUT IN ORDER TO EXCLUDE SYPHILIS.

FACILITY: OTDEL SIFILIDOLOGII TSENTRAL'NOGO N-I KOZHNO-VENEROLOGICHESKOGO INSTITUTA MINISTERSTVA ZDRAVOOKHRANENIYA SSSR I BOL'NITSA IM. V. G. KOROLENKO, MOSCOW.

UNCLASSIFIED

1/2 039 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE SOYUZ SPACESHIPS CONVERSE THROUGH A SATELLITE -U-

AUTHOR-(02)-PETROV, A., VASILYEV, V.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, AVIATSIYA I KOSMONAVTIKA, NO. 2, 1970, PP. 25-26

DATE PUBLISHED-------70

SUBJECT AREAS--NAVIGATION, SPACE TECHNOLOGY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--SPACE COMMUNICATION, COMMUNICATION SATELLITE, GROUND COMMUNICATION EQUIPMENT, OCEANOGRAPHIC SHIP, COMMUNICATION SIGNAL/(U)KOSMONAUT VLADIMIR KUMAROV

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1042 STEP NO--UR/0209/70/000/002/0025/0026

CIRC ACCESSION NO--AP0112182

UNCLASSIFIED

2/2 039 UNCLASSIFIED

CIRC ACCESSION NO--AP0112182 PROCESSING DATE--02OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TERRITORY OF THE USSR OCCUPIES 4.4PERCENT OF THE EARTH'S SURFACE. THE BEST DISTRIBUTION OF TRANSMITTING AND RECEIVING STATIONS OVER THIS AREA WOULD ENSURE CONTINUOUS COMMUNICATION WITH SPACESHIPS ONLY 10PERCENT OF THE TIME. OBVIOUSLY, STATIONS THROUGHOUT THE WORLD WOULD BE DESIRABLE. ONE SOLUTION IS THE USE OF COMMUNICATION SATELLITES FOR MAINTAINING CONTACT BETWEEN SPACESHIPS AND GROUND STATIONS. SOME RECEIVING AND TRANSMITTING STATIONS CAN BE PLACED ON VESSELS. THE SCIENTIFIC RESEARCH VESSEL "KOSMONAUT VLADIMIR KOMAROV" IS AN EXAMPLE OF SHIPS WHICH ARE BEING USED FOR THIS PURPOSE. ALL THE INFORMATION RECEIVED BY THIS VESSEL FROM A SPACESHIP IS TRANSMITTED TO THE SPACEFLIGHT CONTROL CENTER. THE CONTROL SIGNALS ARE TRANSMITTED FROM THE CENTER THROUGH THE LINE: "COMMUNICATIONS SATELLITE VESSEL SPACESHIP". THIS METHOD IS USED WHEN THE SPACESHIPS ARE BEYOND THE RANGE OF RADIO VISIBILITY OF USSR STATIONS. TELEVISION INFORMATION FROM SATELLITES CAN BE TRANSMITTED IN THE SAME WAY. HOWEVER, THE INTERMEDIATE LINK OF A VESSEL AT SEA CAN BE DISPENSED WITH USING DIRECT RELAYING BETWEEN A SPACESHIP AND A COMMUNICATIONS SATELLITE AND THE SPACEFLIGHT CONTROL CENTER. NO GREAT TECHNICAL DIFFICULTIES ARE INVOLVED IN SOLVING THIS PROBLEM. IN ORGANIZING CONTINUOUS RADIO COMMUNICATION BETWEEN A COMMUNICATIONS SATELLITE AND A SPACESHIP WHEN IT IS PRESENT AT ANY POINT OVER THE EARTH'S SURFACE THE COMMUNICATIONS SATELLITES MUST BE PUT INTO ORBIT IN SUCH A WAY THAT THEIR ZONES OF RADIO VISIBILITY COVER THE EARTH'S ENTIRE SURFACE AT THE SAME TIME.

UNCLASSIFIED

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203430008-9"

USSR

VASIL'YEV, V., Captain of the Tanker "Yel'ak" of the Latvian Shipping Line
"Seeking Ways of Shortening Layovers"

Moscow, Morskoy Flot, No 5, 1970, pp 33-35

Abstract: In the port of Klaypeda, much time is lost in the tanker fleet in the fall and winter period due to inactivity during storm or hurricane winds from the east and from the northeast. Under these conditions strong undertows are active at moorings 1, 2, and 3 of the petroleum base of this port, during which the moored ships begin to move at the pier, as a result of which the hawsers break. A series of measures is proposed to reduce the time lost due to this circumstance. These include the construction of shock-absorbing recoil frames at the ends of the piers, or if this cannot be done, the placement of deflection piles along the mooring line. Improved mooring techniques are proposed, as well as arrangements for the simultaneous loading and unloading of tankers. A revision of the docking facilities at this installation is proposed.

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USSR

VASIL'YEV, V. A., and IVLEV, A. A. (Moscow

UDC 662.215.1+662.4

"Calculation of Detonation Initiation of Mechanically Inhomogeneous Explosives by a Shock Wave"

Novosibirsk, Fizika Goreniya i Vzryva, Vol 8, No 2, Jun 72, pp 290-298

Abstract: There are two limiting cases of the initiation of the detonation of mechanically inhomogeneous explosives by a shock wave. The article gives the results of calculating the initiation of mechanically inhomogeneous explosives in the first limiting case, when the shock wave initiates a reaction in each subsequent layer of the explosive. The calculation makes use of experimental data from an earlier article by VASIL'YEV and L. G. BOLKHOVITINOV on the kinetics of the total energy release and shock compressibility of trotyl with varying initial density. An exact calculation of the second limiting case of combustion initiation with subsequent transition to detonation is impossible at the present time due to the lack of data on local heating in hot spots. A model is suggested for the state of the substance and

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USSR

VASIL'YEV, V. A., and IVLEV, A. A., Fizika Goreniya i Vzryva, Vol 8, No 2, Jun 72, pp 290-298

energy release behind the shock front which gives a qualitative description of the process of the detonation initiation of mechanically inhomogeneous explosives under shock wave acceleration.

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USSR

UDC: 629.78.062.2

PETROV, B. N., KOLPAKOVA, N. P., VASIL'YEV, V. A., PAVLENKO, A. I.

"Some Problems in Synthesis of Designs for Systems of Automatic Control of Three-Dimensional Motion of an Orbital Aircraft in the Earth's Atmosphere"

Moscow, Upr. dvizhushchimisya ob"yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik (Control of Moving Objects. Works of the Fourth All-Union Conference on Automatic Control. Tbilisi, 1968--collection of papers), 1972, pp 224-242 (from RZh-Raketostroyeniye, No 10, Oct 72, abstract No 10.41.160)

Translation: Flight conditions of an orbital aircraft at hypersonic speeds require accounting for the mutual influence of longitudinal and lateral motion even at comparatively low angles of attack and glids. In this connection it is of interest to investigate a set of designs of control systems for orbital aircraft in the class of related multichannel systems ensuring independence or slight dependence of control channels or groups of channels. The paper formulates the problem of deriving an entire set of designs and selecting the best automatic control system both in the sense of process quality and simplicity of realization. Graphs without loops are taken as

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USSR

PETROV, B. N. et al., Upr. dvizhushchimisya ob"yektami. Tr. IV Vses. soveshch. po avtomat. upr. Tbilisi, 1968--sbornik, 1972, pp 224-242

the basis for design representation of orbital aircraft control systems, which to a considerable extent facilitates the investigation of internal connections of the coordinates in the object, enables selection of control elements from the condition of their maximum effectiveness in the control process, and also enables determination of a set of designs of selectively invariant systems. This simplifies approach to analysis of the system as a whole. Nine illustrations bibliography of five titles. Résumé.

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UDC 621762.002.5

USSR

TIKHONOV, G. F., KHROMOV, V. G., VASIL'YEV, V. A.

"Application of the "UVD" All-Purpose Vacuum Dilatometer for Studying the Process of Sintering Cermet Materials"

Tr. Gor'kov. politekhn. in-ta (Works of Gor'kiy Polytechnic Institute), Vol 26, No 15, 1970, pp 24-27 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G471)

Translation: Improvements in the structure of the UVD dilatometer have offered the possibility of regulating temperature, automatically printing out temperature marks when working with the "differential" method, changing the sizes of a specimen, and investigating the shrinkage kinetics of porous cermets materials in a wide range of process flow rates. Under certain conditions, it is possible to use the "differential" method of investigation with isothermal holding. There are 3 illustrations and a 2-entry bibliography.

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1/2 046 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--DISTRIBUTION OF PARTICLES BY SIZES IN VARIOUS REGIONS OF SPRAYER FLAME -U-

AUTHOR-(03)-PETROV, G.D., SOKOLOV, R.N., VASILVEV, V.A.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO-FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 105-109.

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, PHYSICS

TOPIC TAGS--FLAME STRUCTURE, FLAME EMISSION, PLASMA TORCH SPRAYING, PARTICLE DISTRIBUTION, FLOW RATE, LIGHT EMISSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0702 STEP NO--UR/0170/70/018/001/0105/0109

CIRC ACCESSION NO--AP0126414

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--04DEC70

2/2 046

CIRC ACCESSION NO--AP0126414

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIG. 1. DISTRIBUTION OF INTENSITY OF LIGHT DISSIPATED BY SPRAYER TORCH DEPENDING ON THE ANGLE OF DISSIPATION FOR BEAMS PASSING AT VARIOUS DISTANCES FROM TORCH AXIS (A); OF DISTANCE TO TORCH AXIS FOR DIFFERENT ANGLES OF DISSIPATION (SIGMA) (N, NUMBER OF ZONE); OF DISSIPATION ANGLE FOR VARIOUS TORCH ZONES (1-8) AFTER CALCULATING BY FORMULA (1) (8). FIG. 2. SCHEME OF SEPARATION OF TORCH ZONES INTO ANNULAR REGIONS (I AND II, PLANES WHERE MEASUREMENTS WERE CARRIED OUT. L, DISTANCE FROM NOZZLE CUT TO PLANE UNDER STUDY. 1, 2, 3, N, NUMBERS OF TORCH REGIONS). FIG. 3. DISTRIBUTION OF PARTICLES BY SIZES FOR VARIOUS TORCH REGIONS IN LINEAR (SIGMA, 2) AND NORMAL LOGARITHMIC SCALE (A, B) (ERF(E), KRAMP FUNCTION OF D). FIG. 4. PULSE PHOTOGRAPH OF TORCH. FIG. 5. MEDIAN DIAMETER BARDMUM OF PARTICLES IN DIFFERENT TORCH REGIONS (N, NUMBER OF REGION). SUMMARY THE RESULTS OF INVESTIGATION OF SIZE DISTRIBUTION OF PARTICLES SUSPENDED IN DIFFERENT POINTS OF AXI SYMMETRIC SPRAYER FLAME ARE CITED. THE DISTRIBUTION OF PARTICLES BY SIZES IS NORMALLY LOGARITHMIC. DISTRIBUTION OF MASS FLOW RATE OF PARTICLES IS ANALYZED IN VARIOUS REGIONS.

UNCLASSIFIED

USSR

BAKULIN, Ye. A., BREDOV, M. M., VASIL'YEV, V. A., Physicotechnical Institute imeni A. F. Ioffe, Academy of Sciences of the USSR, Leningrad

"Plasma Oscillations in 3d Metals and Alloys"

Leningrad, Fizika Tverdogo Tela, Vol 14, No 8, Aug 72, pp 2430-2434

Abstract: The authors investigate the spectra of characteristic losses of energy in transition metals and their alloys with aluminum. Calculations are based on a phenomenological model of oscillations with regard to two types of oscillating electrons differing in the energy of local binding. It is shown that the experimental material may be interpreted by a hypothesis which assumes incomplete participation of valence electrons in collective oscillations: i. e. that there are two groups of valence electrons in iron, cobalt, nickel, and their alloys with aluminum. Characteristic energy loss spectra show a single intense loss line in aluminum alloys with transition metals which corresponds to excitation of oscillations of only one group of valence electrons. No loss lines were observed corresponding to oscillations of all valence electrons.

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UDC 8.74

USSR

VASIL'YEV, V. A.

"The ALGOL-68 Language. Basic Concepts"

Moscow, Yazyk ALGOL-68. Osnovnyye ponyatiya (cf. English above), "Nauka", 1972, 128 pp, ill. 43 k. (from RZh-Matematika, No 1, Jan 73, abstract No 1V800 K)

Translation: The book contains an exposition of the system of concepts and an analysis of the basic constructions of the universal ALGOL-68 algorithmic language, which reflects the general present-day concepts of computer processes and methods of representing them. The work is not intended as a textbook, but gives the reader a general, fairly complete representation of ALGOL-68, with an introduction into an area of interesting and topical problems (frequently in the form of a discussion) relating to the organization of modern programming languages.

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USSR

VASIL'YEV, V. A.

"ALGOL-68. Basic Concepts"

Yazyk ALGOL-68. Osnovnye Ponyatiya [English Version Above], Moscow, Nauka Press, 1972, 128 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V800 K).

Translation: This book contains a presentation of the system of concepts and a selection of the primary constructions of ALGOL-68, a universal algorithmic language, reflecting the general modern concepts of computer processes and methods of their representation. Although not a text, this book gives the reader a general, rather complete understanding of ALGOL-68 and introduces him to a range of interesting and important problems (frequently controversial) concerning the organization of modern programming languages.

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VASIL'YEV, V.D.

Patents/Technological Forecasting

JPRS 59984

7 September 1973

UDC 347.771.002.6

PATENT INFORMATION AND TECHNOLOGICAL FORECASTING

[Article by V. D. Vasil'yev, Moscow, Voprosy Izobretatel'stva, Russian, No 1, 1969, pp 32-[redacted]

What criteria must be adhered to in selecting and using patent documentation? What patent materials should be used and how in technological forecasting. What are the importance indicators of patented objects? The author dwells on these and other related questions of using patent documentation in this article.

Forecasting is a most important element in the overall system of developing the technological policy of a branch.

Increasing the effectiveness of work of scientific organizations and accelerating the use by the national economy of achievements of science and technology" states that scientific-technological forecasts for an extended period must become the base for choosing the most prospective avenues of technological progress and for working out enterprise projects, machine models, and equipment of the future.

In this regard, questions of use in forecasting various sources of information and above all patent documentation deserve serious attention. Without development of a scientifically grounded approach to use of patent information there can be no mention of any amount of satisfactory results in the field of forecasting technological development, since it is impossible to construct a building without knowing what kind of construction material is being used.

In recent years a great many works have been published devoted to problems of technological forecasting on the basis of patent information. The methodology of forecasting has been examined at all-union conferences and

1. V. V. Nekrasovskiy, "Informational model for developing a branch technological policy," Voprosy Izobretatel'stva, No 10, 1968.

Name: Protein Research Institute, Pushchino

Description:

(U) During this quarterly reporting period, two new articles were located from the Protein Research Institute at Pushchino. On the basis of one of the articles, which dealt with escherichia coli ribosomes, it was possible to associate one new person, N. I. Smirnov, with the institute (32). The other article, also on escherichia coli, was issued jointly from the Institute of Genetics and Selection of Microorganisms, Moscow, and the Protein Research Institute at Pushchino (33). Previous articles by V. I. Pernogorov have been issued from the former institute. No previous facility association could be located for V. D. Vasil'yev, but it is likely that he represents the latter institute. This article probably represents some joint work between the two institutes.

(U) As a ready source of reference, given below is a complete listing of personalities identified with the Protein Research Institute to the present time:

All - biochemists

Belesina, N. V.	Privalov, P. L.
Bersiteyn, T. M.	Pritsyn, V. B.
Chirgadze, Yu. N.	Rashevskaya, Ye. P.
Fedorov, B. A.	Serpuk, I. N.
Finkel'shteyn, A. V.	Smirnov, N. I.
Glinskaya, O. V.	Spirin, A. S.
Lavrilova, L. P.	Tiktopulo, Ye. I.
Mitin, Yu. V.	Vasil'yev, V. D.

VASIL'YEV, V. D.

USSR

UDC 669.15.018.23-14(088.8)

BELOV, A. D., VILIM, YU. V., KOSOBOKOV, E. A., SEDOV, V. V., YAROPOLOV, I. I., VASIL'YEV, V. D.

"Automatic Cast Stainless Steel"

USSR Author's Certificate No 276433, Filed 15 Jul 68, Published 12 Oct 70, (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I613P)

Translation: In order to improve machinability, steel containing the following (in %) is proposed: C < 0.12, Cr 17-20, Ni 8-11, Bi 0.1-0.2, S 0.06-0.12, P < 0.035, Si < 1.0, Mn 1.0-2.0. The presence of S and Bi in steel raises the strength of the cutting tool and improves the machinability of the steel. When using the steel (compared with 1Kh18N9TL steel) the cutting rate with 60-min strength of the tool is improved by 25-50%, or the strength of the cutting tool is increased by 2-6 times.

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VASIL'YEV, V. F.

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JPRS 60634
27 September 1973

EXPERIMENTAL STUDY OF THE INTEGRAL CHARACTERISTICS OF THE DC MAGNETOHYDRODYNAMIC CHANNEL

[Abstract of a Paper by V. F. Vasil'yev, Yu. G. Karasev, I. V. Lavrent'yev, Given at the Magnetohydrodynamic Conference, 1971]

In order to check the results of theoretical studies of the electromagnetic processes occurring in magnetohydrodynamic channels and their integral characteristics, a number of experiments were performed on a combined magnetohydrodynamic channel of constant rectangular cross section with conducting walls and one pair of electrodes. The presence in the device of a source of hydraulic power (electromagnetic pump) and an external electric power supply (a unipolar machine) permitted experiments to be performed for all operating modes of the magnetohydrodynamic channel in a broad range of variation of the load factor. In the generator mode the characteristics were taken for constant flow rate of the working medium, and in the pump mode, both for constant and variable current and voltage. The presence on the electromagnet of plug-in pole terminals of different length permitted discovery of the effect of taking the magnetic field beyond the electrode zone on the integral characteristics of the channel. In the generator and pump operating modes, the characteristics of the channel hydrodynamic machine were obtained with a system of compensation windings and without them.

A comparison of theory and experiment demonstrated that it is necessary to consider the contribution of the transverse boundary effect to the channel characteristics, especially for sufficiently large extensions of the channel field beyond the electrodes. The quantitative comparison of the magnetic results obtained from solving the three-dimensional problem, that is, considering both the longitudinal and transverse effects, with the experimental results can be considered entirely satisfactory.

10,845
CSO: 8044/0653-M

- END -

USSR

UDC 546.45'226-162.32:542.336

VASIL'YEV, V. G., YERSHOVA, Z. V., UTKINA, O. N., and CHEBOTAREV, N. T.

"Dehydration of Beryllium Sulfate Tetrahydrate"

Moscow, Zhuranl Neorganicheskoy Khimii, Vol 17, Vyp 3, 1972, pp 625-630

Abstract: The mechanics of the dehydration of $BeSO_4 \cdot 4H_2O$ were followed at temperatures of 25 - 340°C and pressures of 1 - 760 torr by thermogravimetry, x-ray, and differential thermal analysis. The hydrated salt can lose one, two, three, or four of the water molecules resulting in the formation of the tri-, di-, monohydrate, or anhydride, respectively. Solid solutions such as $BeSO_4 \cdot H_2O + BeSO_4$ were present under certain conditions. The structure of the tri- and tetrahydrate changes for the di- and monohydrate impeding the overall dehydration reaction. The heats of dehydration for the reactions $BeSO_4 \cdot 4H_2O \longrightarrow BeSO_4 \cdot 2H_2O$; $BeSO_4 \cdot 4H_2O \longrightarrow BeSO_4 \cdot 3H_2O$; and $BeSO_4 \cdot 2H_2O \longrightarrow BeSO_4 \cdot H_2O$ are equal to 25.8, 13.5, and 15.0 kcal/mole respectively.

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USSR

VASIL'YEV, V. G., et al., Zhurnal Neorganicheskoy Khimii, Vol 17, Vyp 3, 1972, pp 625-630

Energies of activation for the same reactions are 8.6, 15.0, and 18.4 and kcal/mole as determined from thermogravimetry and 9.0, 14.0, and 19.5 kcal/mole as determined from differential thermal analysis.

USSR

UDC: 681.3

VASIL'YEV, V. G.

"Information Properties of Complex Systems"

V sb. Nauch. i prakt. probl. bol'shikh sistem. Sekts. Bol'shiye sistemy. Teoriya, metodol., modelir. (Scientific and Practical Problems of Large Systems. Section on Large Systems. Theory, Methodology, Modeling--collection of works), Moscow, "Nauka", 1971, pp 312-321 (from RZh-Kibernetika, No 11, Nov 71, Abstract No 11V781)

Translation: The paper deals with the problem of studying processes of functioning of complex reproduction systems formed from structural elements of arbitrary nature and the operating principle. A number of new concepts are introduced and used as a basis for studying the information properties of complex conversion units. Bibliography of twenty titles. Author's abstract.

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USSR UDC 528:521.29

VASIL'YEV, V. G., Associate Professor, Candidate of Geographical Sciences, Leningrad Naval Engineering School

"Determination of the Azimuth of a Terrestrial Object by Measurements of Zenith Distances of Heavenly Bodies in the Neighborhood of the Prime Vertical"

Moscow, IVUZ, Geodeziya i Aerofotos'yemka, No 6, 1970, pp 72—73

Abstract : Differential formulas are presented characterizing the dependence of the azimuth change of a heavenly body on the change of the zenith distance. If the heavenly body is observed in a 5-deg zone out of the prime vertical, the differential formulas determine reliably the azimuth as function of the zenith distance and, in a case like that, the calculations can be performed much easier than by standard formulas. Formulas are given for the angular bearing rate of heavenly bodies depending on the rate of change of the zenith distance and its co-factors and for the azimuthal reduction to the prime vertical. The use of worked out tables simplifies the calculations of co-factors. Twelve formulas, two biblio. refs.
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1/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ELECTROLYTE FOR THE ELECTROCHEMICAL POLISHING OF TUNGSTEN -U-

AUTHOR-(05)-DANILINA, G.A., PETROSYAN, A.K., VASILYEV, V.G., KANEVSKIY, YU.L., GAVRILOV, V.M.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 260,789

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--06JAN70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CHEMICAL PATENT, ELECTROLYTE, TUNGSTEN, ELECTROLYTIC POLISHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1993 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0115792

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AA0115792
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROLYTE USED IN THE ELECTROCHEM. POLISHING OF W WITH ABRASIVE DISKS ON A METALLIC BINDER CONSISTED OF: NA SUB2 HPO SUB4 10-15, NA SUB2 CO SUB3 5-7, AND WATER 78-85PERCENT. FACILITY: SPECIAL DESIGN TECHNOLOGICAL BUREAU OF INVENTIONS OF THE COUNCIL OF MINISTERS, U.S.S.R.

UNCLASSIFIED

USSR

UDC: 8.74

VASIL'YEV, V. I., KONOVALENKO, V. V.

"Self-Teaching of Pattern Recognition by a Method of Mixed Distributions"

Kiev, Samoorganizatsiya kibernetich. sistem--sbornik (Self-Organization of Cybernetic Systems--collection of works), 1972, pp 89-97 (from RZh-Matematika, No 10, Oct 73, abstract No 10V777)

Translation: The authors propose a self-teaching procedure called the method of mixed distributions based on the hypothesis of compactness, which is formulated as follows: if certain subsets of objects comprise a pattern, then the maximally invariant statistic relative to the perturbing parameter β generates compact sets in space X. The algorithms of the proposed method, in the case where the hypothesis of compactness is satisfied, do not require information on the number of patterns and can be organized in the form of iteration procedures which do not require additional information other than the mixed instruction sample of images. The following are assumed given when the hypothesis of compactness is satisfied: 1) the metric on set X (the space of features); 2) the mixed instruction sample of images. Mixed sample is the term given to some set of images without any indication of

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USSR

VASIL'YEV, V. I., KONOVALENKO, V. V., Samoorganizatsiya kibernetich. sistem, 1972, pp 89-97

the pattern to which each image belongs. It is assumed that either the patterns are represented by the maximally invariant statistic in some given space X, or the space X itself has the property of maximum invariance with respect to parameter β. It is assumed moreover that the noise which arises in mapping has the property that its statistic is unimodal in each pattern.

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USSR

VASIL'YEV, V. I. and KONOVALENKO, V. V.

"Self-Teaching of Pattern Recognition Using the Method of Mixed Distribution"

Samoorganizatsiya Kibernetich. Sistem [Self-Organization of Cybernetic Systems -- Collection of Works], Kiev, 1972, pp 89-97 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V777)

Translation: A method is suggested for self-teaching, called the method of mixed distributions, based on the hypothesis of compactness. The hypothesis of compactness is formulated as follows: if certain subsets of objects represent a pattern, the maximally invariant statistics relative to disturbing parameter β generates compact sets in space X. The algorithms for the method suggested, if the hypothesis of compactness is fulfilled, require no information on the number of patterns and can be organized as iterational procedures, requiring no additional information except for the mixed learning sample of images. When the hypothesis of compactness is fulfilled, we assume the following to be fixed: 1) the metrics inset X (space of characteristics); 2) the mixed learning sample of images. A mixed sample refers to a certain set of images without indicating membership of each image in any given pattern. It is assumed that either the patterns are represented by the maximally invariant statistics in a cer-

USSR

VASIL'YEV, V. I. and KONOVALENKO, V. V., Samoorganizatsiya Kibernetich. Sistem, Kiev, 1972, pp 89-97

tain fixed space X, or space X itself has the property of maximum invariance in relationship to parameter β. Furthermore, it is assumed that the noise arising during imaging has the property that its statistics are unimodal in each pattern.

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USSR

UDC 533.9.07

ARETOV, G. N., VASIL'YEV, V. I., LOTOTSKIY, A. P., and SKVORTSOV, YU. V.

"Parameters of the Nitrogen Plasma Jet of a Heavy-Current Pulse Accelerator"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, No 11, Nov 73, pp 2324-2331

Abstract: Experiments on the generation of a jet of nitrogen plasma in a coaxial accelerator with a quasi-steady plasma focus are described. Devices of this kind make it possible to obtain streams of ionized gas with a high directed velocity, as well as high-temperature zones with dense plasma. The discharge current reached 500 ka at a voltage in the condenser battery of up to 10 kv. The parameters of the obtained plasma were measured. Its density attained $6 \cdot 10^{17}$ cm^{-3}, the velocity in the front was $1.5 \cdot 10^{7}$ cm/sec, the energy of the plasma stream amounts to about 4 kilojoules. The tendency of change of the plasma density in the focus in relation to the initial conditions is ascertained. 8 figures. 11 references.

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USSR UDC: 51:621.391

VASIL'YEV, V. I.

"A New Method of Decoding Modular Codes"

V sb. Teoriya i praktika ispol'z. sredstv tekhn. kibernetiki. Kn. 1. (Theory and Practice in Using the Facilities of Technical Cybernetics --collection of works. Book 1), Novosibirsk, 1970(1971), pp 46-49 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V449)

Translation: A schematic is given for a decoding device.

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USSR UDC: 51:621.391

VASIL'YEV, V. I.

"Decoding One Class of Ternary Sequences With Correction of Two Errors"

V sb. Teoriya i praktika ispol'z. sredstv tekhn. kibernetiki. Kn. 1 (Theory and Practice in Using the Facilities of Technical Cybernetics --collection of works. Book 1), Novosibirsk, 1970(1971), pp 50-54 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V450)

Translation: The author develops a method of error correction using parallel channels.

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USSR UDC 51.621.391

VASIL'YEV, V. I.

"Conversion and Transmission of Information in Systems with Automatic Coding"

Teoriya i Praktika Ispol'z. Sredstv Tekhn. Kibernetiki. Kn. 1 [Theory and Practice of the Use of Engineering Cybernetics Equipment. Book 1 -- Collection of Works], Novosibirsk, 1970 (1971), pp 3-9, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V636 by Yu. Pyatoshin).

Translation: Some general problems of the transmission of information through communications lines are studied.

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USSR UDC 681.332.65

VASIL'YEV, V.I., DOLGOPOLOV, V.N., et al.

"Poisson Random Pulse Flow Generator"

USSR Author's Certificate No. 273565, Filed 17/03/69, Published 14/09/70 (Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No. 4, 1971, Abstract No. 4B235P).

Translation: Poisson randim pulse flow generators consisting of a primary noise source, a wide-band amplifier, and a shaper are used to model flows of independent random events. The noise voltage is amplified to the necessary level by the wide-band amplifier and fed to the input of the shaper which produces short pulses of constant amplitude and duration at the moment in time when the noise voltage and its input exceeds the operating threshold. The purpose of this invention is to increase the flow density, with a fixed speed of operation of the shaper, or decrease the requirements for the shaper speed, for a fixed density, with a high degree of approximation of the output flow to a Poisson flow and insignificant complication of the circuit in comparison to ordinary generators. This goal is achieved by using 2 shapers in the generator having operating thresholds identical in magnitude but opposite in sign. The use of 2 identical shapers with opposite thresholds allows

USSR UDC 681.332.65

VASIL'YEV, V.I., DOLGOPOLOV, V.N., et al., USSR Author's Certificate No. 273565, Filed 17/03/69, Published 14/09/70.

shapers with operating speeds only half as great to be used as when one shaper must be used. The pulses at the outputs of the shapers appear at moments in time which do not correspond and, with the proper selection of threshold values, are practically independent. 1 fig.

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203430008-9"

USSR

UDC 51:155.001.57:681.3.06

VASIL'YEV, V. I., KONOVALENKO, V. V.

"Self-Teaching in the Problem of Pattern Recognition"

Tekhn. Kibernetika, Vyp. 6, [Engineering Cybernetics, No 6--Collection of Works], Kiev, 1970, pp 68-86, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V676 by E. Vagner).

Translation: The problem of pattern recognition can be formulated as follows: Suppose set of objects M includes m non-intersecting subsets, called classes. Each object corresponds to a certain description $x = x(x', \ldots, x^k)$. In the space of descriptions X, the sets corresponding to various classes may intersect. The problem is to construct an algorithm allowing the class to which any object from set M belongs on the basis of the description of the object. It is suggested in this work that the ability of pattern recognition is developed after preliminary self-teaching and subsequent training. Self-teaching of the system is taken to mean development by the system without instructions from a teacher of the capability for achievement of identical reactions to objects which are similar in the sense of the description selected, that is the ability of generalization. Training is the assignment of names to individual reactions or a certain set of reactions. The solution of the problem of self-teaching can be reduced to restoration of the probability density function of a mixture and determination of the "centers" and then the boundaries of classes on this basis. It is suggested that the probability density function be estimated

USSR UDC 51:155.001.57:681.3.06

VASIL'YEV, V. I., KONOVALENKO, V. V., Tekhn Kibernetika, Vyp. 6, Kiev, 1970, pp 68-86.

using the method of normal contributions, in which each point of the learning sequence is related to a certain contribution function, and the estimate is sought as the average of these contributions. It is proven that the estimates produced with the normal distribution of the contribution function is an unbiased, consistent estimate of the probability density function.

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USSR

VASIL'YEV, V. I., and GOYZMAN, M. S.

"Expanded All-Union Seminar on the Analytical Control of the Industrial Products of Medicinal Preparations, Antibiotics and Other Pharmaceutical Agents"

Moscow, Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 15, No 3, 1970, pp 347-349

Abstract: The seminar was held in June 1969 in Pyatigorsk; it consisted of two sections: analysis of drugs and analysis of vitamins, antibiotics, and natural products. P. M. SHEMYAKIN gave an exhaustive review of the physico-chemical methods already used in the pharmaceutical industry. V. G. BELIKOV showed that the use of the differential method increases the sensitivity of photometric drug analysis severalfold. In his review of basic analytical methods, YU. YU. LUR'YE pointed out the need for extensive analysis of sewage waters due to the growth of the chemical-pharmaceutical industry. N. A. KAZARINOV summarized results of studies carried out on the development of analytical methods for carbonyl compounds based on formation of oximes followed by potentiometric titration. M. K. POLIYEVKTOV discussed polarographic studies on

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USSR

VASIL'YEV, V. I., and GOYZMAN, M. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 51, No 3, 1970, pp 347-349

the formation of tropinone. M. S. GOYZMAN reported on a novel thermocatalytic method for the indication of titration end point of weak bases. Several papers covered application of thin layer chromatography in analytical drug control, notably by A. Z. KNIZHNIK, L. I. LISHCHETA, R. I. SHVIDKO, and V. D. DOLGOPOLOVYY, V. M. LIKHACHEVA, S. S. KOMSTAKHOVA, et al. A wide coverage was given to the optical methods. M. M. KAGANSKIY and K. P. TETENCHUK discussed the differential spectrophotometric method used in determination of monomethylurea and urea. Also, I. YA. KUL', N. V. SOLOVA, and V. G. BELIKOV; N. G. TIMIFEYEVA, and SHEMYAKIN, F. M., used the spectrophotometric method for determination of a series of compounds. V. I. MALAKOVA used the extraction photometric method for determination of levomepromazine. Analysis of a mixture of compounds could be carried out concurrently by spectrophotometric analysis in nonaqueous media, as reported by V. I. KUZNETSOV. Analysis of quinocide by means of photoelectrocalorimetry was reported by A. V. LITVINENKO and V. N. BERNSHTEYN. A mixture of bromoaleic anhydride, bromosuccinic, and maleic anhydrides could be analyzed without preliminary separation by a polarographic

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VASIL'YEV, V. I., and GOYZMAN, M. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 15, No 3, 1970, pp 347-349

method according to I. G. MARKOVA, M. K. POLIYEVKTOV, and M. R. BAGREYEVA. Various titrational methods were discussed by N. SH. ALDAROVA, N. T. SMOLOVA, G. V. TUROVTSEVA, I. D. SAVEL'YEVA, R. A. GEYTZ, I. B. DLIKMAN, YE. YA. BORISOVA, S. V. BOGATKOV and YE. M. CHERKASOVA. Only one paper covered preparative gas-liquid chromatography in which YE. M. KAZINIK discussed separation of impurities in α-pyrrolidone and N-vinylpyrrolidone. Based on the reaction of silver ions with divalent iron, L. V. MARKOVA and T. S. MAKSIMENKO developed a method for determination of microquantitites of arsenic and cysteine by a kinetic method.

At the section devoted to analysis of vitamines, antibiotics and natural products, considerable attention was given to chromatographic methods. M. TS. YANATOVSKIY reported on gas-liquid chromatography used for control in production of Vitamine E. V. I. TRUBNIKOV, YE. S. ZHDANOVICH, and N. A. PREOBRAZHENSKIY (DECEASED), developed a gas chromatographic method for analysis of α -picoline.
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USSR

VASIL'YEV, V. I., and GOYZMAN, M. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 15, No 3, 1970, pp 347-349

V. G. MAYRANOVSKIY developed a polarographic method for analysis of a ternary mixture of Vitamin A acetate, anhydrovitamin A, and retrovitamin A. Analysis of formulated drugs was carried out by means of gas chromatography -- N. S. YEVTUSHENKO, F. M. SHEMYAKIN, and D. Z. YASKINA -- and by spectrophotometry -- V. N. BERNSHTEYN. Analysis of antibiotics was discussed by: N. V. KONSTANTINOVA -- thin layer chromatographic analysis of antitumor agents; V. I. VASIL'YEV, V. N. KOROBKIN and V. B. KORCHAGIN -- titration in non-aqueous media; G. I. KLEYNER, V. S. ABRAMSON, L. M. YEILIZAROVSKAYA and B. B. DZENDZE-PLETMAN -- chromatographic monitoring of the synthesis of 6-aminopenicellanic acid. YE. M. SAVITSKA and P. S. NYS discussed an interesting method for the calculation of ionization constants of antibiotics. Quantitative compisition of more important glycosides in digitalis purpurea was reported by N. P. DZYUBA, N. YE. VOROB'YEV and A. I. SOKOLOVA, N. A. KAZARINOV and YE. I. PUCHKOVA carried out quantitative determination of cardiac glycosides of lily of the valley. Thin layer chromatography was used for separation and quantititative determination of hydroxymethylanthraquinones by V. P. GEORGIYEVSKIY and A. L. LITVINENKO.

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USSR

VASIL'YEV, V. I., and GOYZMAN, M. S., Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva imeni D. I. Mendeleyev, Vol 15, No 3, 1970, pp 347-349

The paper chromatographic method was covered by V. A. DANIL'YANTS, S. KH. MUSHINSKAYA and YU. V. SHOSTENKO -- in production of alkaloids from poppyheads and by N. YA., TSARENKO and M. S. SHRAYBER -- in quantitative determination of various alkaloids.

5/5

USSR

UDC 621.317.743

DOLGOPOLOV, V. N., VASIL'YEV, V. I., NEUSTROYEV, P. V.

"New Circuit for an Effective Noise Voltage Meter"

Pomekhi v tsifr. tekhn (Noise in Digital Equipment -- Collection of Works), Vil'nyus, 1969, pp 141-143 (from RZh-Radiotekhnika, No 3, Mar 70, Abstract No 3A299)

Translation: The deficiencies of a series of known instruments are pointed out as applied to the measurement of the effective noise voltage. Specific requirements which must be satisfied by this type of meter are enumerated (long extent of the quadratic section, significant averaging time, and so on). The description of the instrument developed by the authors considering the mentioned requirements and its schematic diagram are presented. The instrument made from transistors, contains an input divider, a wide band (20 hertz to 4 megahertz) amplifier and a square-law detector. The latter contains a squaring circuit with a sufficient number of links. The instrument has five measurement ranges, an error of $< 5\%$, and a squareness factor of 5. The bibliography has four entries.

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USSR

UDC 621.395.385.4

DOLGOPOLOV, V. N., VASIL'YEV, V. I., KOCHKONOGOV, A. S.

"Multichannel Additive Noise Imitator"

Leningrad, Priborostroyeniye, No 5, 1970, pp 5-8

Abstract: Description is given of a multichannel imitator of fluctuating and pulse noise, a development of the Taganrog Radio Engineering Institute, bearing the type number MIP-2. It is a modification of a preceding model, type MIP-1. The purpose of the newer device is to investigate the noise immunity of remote control, acoustic, telephone, electronic, and other equipment under laboratory conditions. It can also be used as the transmitter of random analog functions and random pulse signals in the design of random number generators, system modeling devices for mass servicing, as well as biological and hydroacoustic systems. It is all transistorized, and its block arrangement -- the diagram of which is given -- includes such units as a four-range noise oscillator with several distribution laws, a two-channel pulse noise oscillator, a block for forming various regular and random noise samples, a device for stabilizing the effective noise voltage, a circuit for modulating the amplitude of random pulses according to internal and external modulating voltages, and an arrangement for measuring the output intensity. A full list of technical specifications for the device is presented.

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USSR

UDC 621.382.3

PAVLOV, P. V., VASIL'YEV, V. K., VOLOD'KO, V. G., ZORIN, Ye. I., TETEL'-BAUM, D. I., TULOVCHIKOV, V. S., CHIGIRINSKAYA, T. Yu.

"Peculiarities of Concentration Profiles in Ion Implantation and Their Use for Creating Varicaps and Bipolar Transistors"

Kiev, IVUZ, Radioelektronika, Vol 14, No 11, Nov 71, pp 1353-1364

Abstract: The authors consider the principal technically important singularities of concentration profiles in the case of ion-beam alloying both without distillation and after diffusion distillation of dopants. Problems of calculating the principal sections and depths of PN junctions on silicon as a function of conditions of irradiation and annealing are discussed. A description is given of the use of the ion-beam method for making a varicap with an inverse impurity gradient in the base, and also for making a binary PNP transistor. The basic parameters of the varicap are calculated. Nine figures, one table, bibliography of nine titles.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--LONG ACTING STREPTOMYCIN -U-

AUTHOR-(04)-GOLUBEV, V.N., KOROLEVA, V.G., VASILYEV, V.K., LAZAREVA, YE.N.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 6, PP 491-494

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BENZENE DERIVATIVE, ETHYLENEDIAMINE, STREPTOMYCIN, SULFATE, BLOOD CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1833 STEP NO--UR/0297/70/015/006/0491/0494

CIRC ACCESSION NO--AP0125444

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.

1,3,DIBENZYL,2,STREPTOMYCINIMIDAZOLIDIN SULFATE, A CONDENSATION PRODUCT OF STREPTOMYCIN WITH N, N PRIMEI,DIBENZYLETHYLENDIAMINE WAS STUDIED IN VITRO AND IN VIVO. ON INTRAMUSCULAR ADMINISTRATION OF A WATER SUSPENSION OF STREPTCIMIDOZOLIDIN (PARTICLES OF NOT MORE THAN 30 MICRONS) TO DOGS IN DOSES OF 20000 OR 40000 MU G-KG, THE DRUG WAS ABSORBED TO BLOOD AT A LOWER RATE AND PROVIDED LOWER LEVELS DURING THE FIRST HOURST OF OBSERVATION AS COMPARED TO STREPTOMYCIN, WHILE THE BLOOD LEVELS IN 3, 5, 8, 12 HOURS WERE MUCH HIGHER. MINOR CONCENTRATION OF STREPTOIMIDAZOLIDIN WERE DETECTED UP TO 72 HOURS AFTER THE ADMINISTRATION. THE NEW DERIVATIVE DID NOT SIGNIFICANTLY DIFFER FROM STREPTOMYCIN BY THE GENERAL ANTIBACTERIAL SPECTRUM IN VITRO AND THE BASIC PHARACOLOGICAL CHARACTERISTICS. FACILITY: NATIONAL INSTITUTE FOR ANTIBIOTICS, MOSCOW.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--THE ENERGY CORE OF A SHIP -U-

AUTHOR--VASILYEV, V.K.

COUNTRY OF INFO--USSR

SOURCE--THE ENERGY CORE OF A SHIP (ENERGETICHESKOYE SERDTSE KORABLYA) LENINGRAD. SUDOSTROYENIYE. 1970. 126 PP

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--MARINE PROPULSION, SHIP AUXILIARY EQUIPMENT, ENGINE TURBINE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/0580 STEP NO--UR/0000/70/000/000/0001/0126

CIRC ACCESSION NO--AM0110371

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AM0110371

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PREFACE 3. INTRODUCTION 5. CHAPTER I THERMAL SYSTEMS OF MARINE POWER INSTALLATION 30. II BASIC SPECIFICATIONS FOR MARINE POWER MACHINES AND THEIR REALIZATION 60. III CHARACTERISTICS OF MARINE POWER MACHINES 86. IV THE CONNECTION BETWEEN DESIGN AND KNWOLEDGE OF THE MATERIAL AND TECHNOLOGY 121. LITERATURE 127. THIS IS A POPULAR ANALYSIS OF THE STATE OF MARINE POWER MACHINE CONSTRUCTION OF THE PAST AND A PROGNOSIS FOR THE IMMEDIATE FUTURE. THE BOOK IS FOR A WIDE RANGE OF READERS INTERESTED IN THE MODERN DESIGN AND CONSTRUCTION OF MARINE POWER MACHINES.

UNCLASSIFIED

Acc. Nr: AP0034404

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 2, pp 185-188

SIGNIFICANCE OF AMPICILLIN CONCENTRATIONS IN THE TREATMENT OF SURGICAL PATIENTS

D'yachenko, G. M.; Butylina, L. V.; Vasil'yev, V. K.; Navashin, S. M.

Institute for Clinical and Experimental Surgery, Department of Experimental Therapy of National Institute for Antibiotics, Moscow

Ampicillin was used in the treatment of surgical cases and the dynamics of the antibiotic blood levels was studied. It was found that ampicillin produced a satisfactory effect and was retained in blood for 5 hours in therapeutic concentrations. In patients with the kidney affections the antibiotic therapeutic concentrations were 4—6 times higher than usual ones. The dose of ampicillin in the treatment of patients with the kidney insufficiency should be individual, depending on the drug blood level.

D.N.

REEL/FRAME

19711064

USSR

UDC 621.374.4(088.8)

POPOV, P. S., NIKOLAYEV, A. A., BOBRIN, V. Ye., VASIL'YEV, V. M.

"A Pulse Frequency Divider"

USSR Author's Certificate No 255344, Filed 16 Nov 67, Published 12 Mar 70 (from RZh-Radiotekhnika, No 10, Oct 70, Abstract No 10G200 P)

Translation: This Author's Certificate introduces a pulse frequency divider based on a transistorized relaxation oscillator circuit which contains a delay line in the feedback circuit. To improve the conversion phase stability, the oscillator also contains a transistorized key which is connected through an emitter follower in the feedback circuit between the delay line and the oscillator transistor base.

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USSR UDC 681.325.53

RAISOV, O. A., VASIL'YEV, V. M., GASHCHAK, P. S., SHALAMOV, G. P.

"A Device for Converting Binary-Decimal Numbers to Binary"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, 1970, p 97, patent No 260962, filed 23 Dec 68

Abstract: This Author's Certificate introduces a device for converting binary-decimal numbers to binary. The unit contains a binary-decimal number register, a four-digit tetrad memory register, a tetrad counter, a memory register for results, a pulse distributer, delay lines, rectifiers, a single-digit adder, and a control circuit. As a distinguishing feature of the patent, the circuit is simplified and reliability is improved by connecting the inputs of the four-digit tetrad memory register to the outputs of the binary-decimal number register, tetrad counter, and pulse distributer, while the output of this register is connected to a rectifier which is tied at the output to one of the adder inputs to which the output of the memory register for the result is connected through another rectifier and a delay line. The memory register output is also connected to a third rectifier whose output is connected to the second input of the adder,

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USSR

UDC 681.325.53

RAISOV, O. A., et al., Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, 1970, p 97. patent No 260962, filed 23 Dec 68

this input also being connected to the output of the memory register for the result through a fourth rectifier and delay lines. The adder outputs are connected to the inputs of the memory register for the result which is connected by its inputs to the distributer outputs. The control circuit is connected to the inputs of the distributer, rectifiers, and tetrad counter.

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USSR

UDC 612.45+612.766.1

KASSIL', G. N., MATLINA, E. SH., VASIL'YEV, V. N., and KIKOLOV, A. I., Laboratory for Problems of Control of Functions in Humans and Animals imeni N. I. Grashchenkov, Academy of Sciences USSR, and Laboratory of Mental Work, All-Union Scientific Research Institute of Railroad Hygiene, Ministry of Public Transport

"The Influence of Intense Mental Work During the Day and Night Hours on the Excretion of Catecholamines in the Urine"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1,151-1,157

Abstract: The excretion of catecholamines in the urine was studied for 68 railway employees who alternated day and night shifts. In the daytime, operators and on-duty men exhibited only a decrease in the reserve capacities of the sympatho-adrenalin system, while dispatchers, said to do more intense work, also showed an increase in noradrenalin excretion. During the night shift the dispatchers showed a larger increase in adrenalin excretion than other railway workers, though less than a control group not accustomed to night work, and a larger increase in noradrenalin excretion than either group. Dispatchers also increased their excretion of the dihydroxyphenylalanine
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APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R002203430008-9"

USSR

KASSIL', G. N., et al., Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 8, Aug 73, pp 1,151-1,157

precursor. The operators and on-duty men showed a larger increase in nor-adrenalin excretion during the night work than the controls. Excretion levels returned to the initial on the second day of rest. These results are said to show that even after many years of adaptation to a certain type of neuro-emotional work the excretion of catecholamines still depends on the intensity of the work, and that adaptation to night work is more difficult than to day work.

2/2

USSR

UDC 629.78.062.2

ALEKSEYEV, K. B., BULEKOVA, N. M., and VASIL'YEV, V. N.

"System of Extensive Control of a Rotating Solid With a Spherical Flywheel"

Tr. Mosk. aviats. In-ta (Works of the Moscow Aviation Institute), No 240, 1972, pp 127-133 (from Referativnyy Zhurnal--Raketostroyeniye, No 5, May 73, Abstract No 5.41.235 by the authors)

Abstract: In the varied technical resources providing creation in internal moments for control of the rotational movements of a solid, the spherical flywheel possesses vast potential possibilities. However, its use in control systems with angular movements of a solid have been associated with considerable difficulties. The power and weight gain factors which give the flywheel, in the essential method of control, angular motions of the solid, do not compensate for the difficulties of its structural development. Development of a method of extensive control makes it possible to evaluate the advantages of the flywheel, but only from the positions of the theory and practice of automatic systems using computers. And it was not excluded that for such a method of control the realization of the mentioned possibilities of the flywheel receives sufficient validation. The present investigation is devoted to theoretical problems of extensive control by means of a flywheel and should yield premises about the technical content of the problem. 3 figures, 4 tables.

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USSR

UDC 612.45+612.766.1

MATLINA, E. Sh., VASIL'YEV, V. N., and BRODSKAYA, T. V., Laboratory for Problems in Control of Functions in Animals and Man, Academy of Sciences USSR imeni, N. I. Grashchenkov, and Division of the Physiology Labor All-Union Scientific Research Institute of Railroad Hygiene, Ministry of Railroads USSR

"Excretion of Catecholamines and Their Precursors in Night and Day Workers"

Leningrad, Fiziologicheskiy Zhurnal SSSR, No 7, 1971, pp 1,027-1,031

Abstract: Study of the activity of the sympatheticoadrenal system in railroad employees working a succession of night and day shifts. The amount of epinephrine and (E) and norepinephrine (NE) on a work day was found to be the same as on a rest day, but there was an increase in the ratio of E, NE, DA (dopamine) to D (dopa) that did not return to normal on the first day of rest. There was an increase in the excretion of NE and increase in the ratio of E and NE to DA and decrease in the ratio of E, NE, and DA to D the night after day work compared with night rest. In general, on the day of rest the amount of catecholamines secreted by the shift workers was lower than that excreted by the control. The blood cholesterol level was higher during a work day than on a rest day.

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USSR

UDC 62:001.57

VASIL'YEV, V. N., DRATSKIY, Yu. M., KOTOV, V. P., and KUKUSHKIN, Yu. A., Engineers

"Modeling an Automated System of Industrial Plant Control"

Moscow, Mekhanizatsiya i Avtomatizatsiya Proizvodstva, No 8, 1972, pp 34-36

Abstract: This article is devoted to a description of the UMFA, a device for modeling the functions of an automatic factory control system. The purpose of the device is to prepare and acquaint the management personnel of factories with the basic functions and possibilities of automatic plant control with the idea of eventually introducing such control into the plant. It is also meant as a teaching device for junior and senior students of automated production control and to popularize new methods of factory control using economic-mathematical methods and computer techniques. A diagram of the device's external view is given as well as an operational block diagram. Some of its electronic circuits are also reproduced in schematic form. It uses magnetic tape for two-track recording: first, for a dictated text to accompany pictures for demonstration purposes; second, for control signals. Other details of the construction and operation of the device are given.

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USSR

UDC: 681.327

VASIL'YEV, V. P., ROMANENKO, Yu. A., KUNIN, D. I.

"A Step-by-Step Graph Plotter"

USSR Author's Certificate No 267216, filed 29 Sep 67, published 27 Nov 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct 71, Abstract No 10B460 P)

Translation: The invention is in the class of devices for automatically outlining maps, graphs, and drawings with the aid of a digital computer. Step-by-step graph plotters are known which contain devices for self-contained playback of a magnetic recording (for instance, a standard digital computer magnetic tape store); a two-coordinate drafting device with step-by-step pulse drive and pen module; and also a control device including a reception register, command decoder, graph address setter, address flip-flop, and actuating flip-flop. However, these devices are not very productive, and as a rule do not permit repeated readout from the same zone of the magnetic tape. To reduce the machine time spent on recording and to enable drawing of long and complicated graphs by recording the commands for the graph plotter on mag-

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USSR

VASIL'YEV, V. P. et al., Soviet Patent No 267216

netic tape without spaces and in a definite order with subsequent repeated readout of each zone, the device contains: a synchropulse counter whose input is connected to the output of a pulse-potential switch, while the controlling input is connected to the zero-output terminal of the actuating flip-flop, and the pulse input is connected to the synchropulse output of the self-contained device for playback of the magnetic recording; a commutating flip-flop whose counting output is connected to the zero-output terminal of the actuating flip-flop; a pass counter whose input is connected to the one-output terminal of the commutating flip-flop; a code coincidence circuit with the inputs connected pairwise to the outputs of the synchropulse counter and the pass counter, while the output is connected to the command decoder; and a last pass coincidence counter whose inputs are connected to the corresponding outputs of the pass counter, while the output is connected to the input of a total reset kipp oscillator. The device also has a magnetic tape reverse module which contains a kipp oscillator with the input connected to the one-output terminal of the actuating flip-flop, first and second switches with their pulse inputs connected to the outputs of the kipp oscillator and their controlling inputs connected to the outputs of the commutating flip-

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USSR

VASIL'YEV, V. P. et al., Soviet Patent No 267216

-flop; first and second flip-flops whose opposite inputs are interconnected and tied to the outputs of the first and second switches, while the outputs of the flip-flops are connected to the inputs of first and second amplifiers whose outputs are connected to the corresponding inputs of the tape direction commutator in the self-contained playback device. To cut down drawing time by readout of information from the magnetic tape during both forward and reverse travel, the device contains a readout gating commutator whose input is connected to the output of the commutating flip-flop, while the commutator output is connected to a gating element in the self-contained playback device. To provide reliable actuation of readout within a zone and to synchronize readout with the motion of the magnetic tape, the graph plotter contains a third and a fourth switch with their pulse inputs connected to the outputs of the commands for the beginning and end of the zone in the command decoder, and their controlling inputs connected to the outputs of a recognition flip-flop. The outputs of the switches are interconnected and tied to the pulse inputs of a count switch and a synchronizing switch whose controlling inputs are connected to the outputs of the kipp oscillator; the

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VASIL'YEV, V. P. et al., Soviet Patent No 267216

output of the synchronizing switch is connected to the "reset" input of the synchropulse counter. The graph plotter also contains a scaling circuit whose input is connected to the output of the count switch, while the output is connected to the counting input of the actuating flip-flop; a fifth switch whose pulse input is connected to the zero-output terminal of the actuating flip-flop, while its controlling input is connected to the one-output terminal of the kipp oscillator and its output is connected to the counting input of the recognition flip-flop. To find a given graph from among several graphs recorded on magnetic tape, the plotter contains a sixth switch whose controlling input is connected to the one-output terminal of a search flip-flop, the latter also being connected to the inhibit input of a code comparison circuit, while the output of the sixth switch is connected to the input of the total reset kipp oscillator. The device also contains a kipp oscillator whose input is connected to the zero-output terminal of the actuating flip-flop, while the one-output terminal is connected to the pulse input of the sixth switch, and the zero-output terminal is connected to the inhibit input of the code coincidence circuit. Five illustrations.

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USSR

UDC 541.8:541.11

VASIL'YEV, V. P., VOROB'YEV, P. N., KHVOSTOVA, I. B., and MILOVANOVA, V. A., Ivanovo Chemico-Technological Institute, Chair of Analytical Chemistry

"Standard Heat of Solution of $TiCl_4$ in Nitric Acid"

Ivanovo, IVUZ Khimiya i Khimicheskaya Tekhnologiya, Vol 15, No 1, 1972, pp 47-49

Abstract: The chemistry of titanium, including the thermodynamic properties of its compounds, are of the greatest practical significance. With the use of an improved calorimeter having automatic recording (See V. P. VASIL'YEV et al., Zh. Neorgan. Khimii, 11, 699, 1966), heat of solution, heat of dilution, and heat of destruction of the ampoule, were determined over a wide range of concentration of the HNO_3 solution. The new empirical data made it possible to develop more precise formulas for determining those quantities for the solution of $TiCl_4$ in HNO_3. All data and formulas, along with graphic representation of the relationship between $TiCl_4$ solution and final HNO_3 concentration, are included in the paper.

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USSR

UDC 632.95.028

VASIL'YEV, V. P., KOSMATYY, Ye. S., KUDEL', K. A., POLONSKAYA, F. I., and ZATSERKOVSKIY, V. A., Ukrainian Scientific Research Institute of Plant Protection

"Heptachlor Residues in Plants and Soil in Relation to the Application Method"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 3, 1972, pp 32-34

Abstract: No residue of heptachlor was found in the harvest of corn, wheat, or sugar beets, regardless of the method of application: pretreatment of the seeds, soil treatment, or spraying of the young plants. Depending on the method of application heptachlor residue was found for varying periods in the leaves and roots of the plants, but cleared rapidly and did not accumulate in soil.

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USSR UDC 621.372.832.43

NAGORNOV, A. I., VASIL'YEV, V. P., GORDEYEV, V. A., STRYGIN, Yu. F.

"A Miniature Magnetless Ferrite Diode Waveguide"

V sb. Radioelektron. v nar. kh-ve SSSR (Radio Electronics in the Soviet National Economy--collection of works), Kuybyshev, 1971, pp 371-373 (from RZh-Radiotekhnika, No 11, Nov 71, Abstract No 11B189)

Translation: The paper presents the results of an experimental study of a magnetless miniature diode for the cm band based on a cylindrical ferrite with induced unidirectional anisotropy. The diode is based on a rectangular waveguide with an absorber located in a depression in one of its walls. A dielectric plate is placed in front of the absorber to improve matching and tuning of the electrical length. The height of the ferrite cylinder is 80-95 percent of the size of the narrow wall of the saveguide. The operating principle of such a diode is described and the characteristics of a model of the diode are presented. One illustration, bibliography of five titles. A. K.

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USSR

UDC 621.372.85

KOSHKIN, L. I., GORDEYEV, V. A., STRYGIN, YU. F., NAGORNOV, A. I., VASIL'YEV, V. P.

"Small Wave Guide Devices"

Issled. po fiz., metodike fiz. i astron. — V sb. (Research in Physics and Physics and Astronomy Procedures -- collection of works), Kuybyshev, 1970, pp 43-44 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B177)

Translation: The development of a number of small wave guide devices is reported: a ferrite rectifier weighing 80 grams, a "nonmagnetic" ferrite circulator with unidirectional anisotropy and some ferrite devices with induced anisotropy.

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1/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--KINETIC CHARACTERISTICS OF THE FORMATION OF A TANTALUM PEROXIDE COMPLEX IN SULFURIC ACID SOLUTIONS -U-

AUTHOR-(02)-VASILYEV, V.P., ZAYTSEVA, G.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1016-21

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--TANTALUM COMPOUND, SULFURIC ACID, ENTROPY, CHEMICAL KINETICS, PEROXIDE, CHEMICAL REACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1100 STEP NO--UR/0078/70/015/004/1016/1021

CIRC ACCESSION NO--AP0123092

UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0123092
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS OF THE REACTION OF H SUB2 O SUB2 WITH TAO SUB2 PRIME POSITIVE IN H SUB2 SO SUB4 WAS STUDIED SPECTRO PHOTOMETRICALLY USING ABSORPTION AT 280 M MU. THE RATE CONST. (K) DECREASED MARKEDLY WITH DECREASING CONCN. OF H SUB2 SO SUB4. THE REACTION IS 1ST ORDER WITH RESPECT TO H SUB2 O SUB2 AND TA. IN 80PERCENT H SUB2 SO SUB4, THE ACTIVATION ENERGY AND ENTROPY ARE 13.7 KCAL-MOLE AND MINUS EU, RESP. RESULTS FOR 50, 70, 80, AND 90PERCENT H SUB2 SO SUB4 CONCN. AT 25, 40, 50, AND 60DEGREES ARE GIVEN.
FACILITY: IVANOV, KHIM.-TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--THERMODYNAMIC CHARACTERISTICS OF THE FORMATION OF A CADMIUM MONOIODIDE COMPLEX IN WATER METHANOL MIXTURES -U-

AUTHOR-(02)-VASILYEV, V.P., MUKHINA, P.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(3), 352-3

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMODYNAMIC CHARACTERISTIC, CADMIUM COMPLEX, IODIDE, IONIC BONDING, ENTROPY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0849 STEP NO--UR/0153/70/013/003/0352/0353

CIRC ACCESSION NO--AT0137877

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0137877

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE NEG. HEAT OF MIXING (NEGATIVE DELAT I) OF H SUB2 O,MEOH SOLNS. OF CD(NO SUB3) SUB2 AND KI AT 0.3 IONIC STRENGTH AND 25DEGREES IS APPROX. CONST. AT 1.70-1.74 KCAL-MOLE AT 10-30 WT. PERCENT MEOH, DECREASES SHARPLY TO 0.64 AT 75 WT. PERCENT MEOH, AND RISES TO 3.13 AT 98 WT. PERCENT MEOH. SIMILAR DATA ARE GIVEN FOR HEATS OF FORMATION AND DILN. OF THE CDL COMPLEX. THE ENTROPY CHANGE INCREASES FROM 0 TO A MAX. OF 15.8 EU AT 90 WT. PERCENT MEOH. THE BEHAVIOR OF THE SYSTEM CLOSELY RESEMBLES THAT OF THE CLO COMPLEX IN H SUB2 O,ETOH MIXTS., ALTHOUGH THE LATTER MIXT. EVIDENCE A GREATER DESTRUCTIVE ACTION THAN THE MEOH MIXT. ON THE PRIMARY H SUB2 O STRUCTURE. FACILITY: IVANOV. KHIM. TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

1/2 006 UNCLASSIFIED

TITLE--COMPLEXING OF CHROMIUM (III) WITH GLYCEROL IN AN ALKALINE MEDIUM -U-

PROCESSING DATE--23OCT70

AUTHOR-(02)-VASILYEVA, V.N., VASILYEV, V.P.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 21-4

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHROMIUM COMPLEX, GLYCEROL, SODIUM HYDROXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/1570

STEP NO--UR/0153/70/013/001/0021/0024

CIRC ACCESSION NO--AT0116978

UNCLASSIFIED

2/2 006 UNCLASSIFIED

CIRC ACCESSION NO--AT0116978 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN M NAOH SOLNS. THE ABSORBANCE OF 0.025M CR(III) AT 580-600 NM IS 24.0 PLUS OR MINUS 0.4, AND IN M NAOH 2M GLYCEROL THE ABSORBANCE BECOMES 36.0-37.4 PLUS OR MINUS 1.1 IN THIS RANGE. IT IS ESTABLISHED THAT A COMPLEX (CR(OH)SUB4.L)PRIME NEGATIVE IS FORMED IN 2 STEPS, WHERE L IS GLYCEROL.

FACILITY: IVANOV. KHIM. TEKHNOL. INST., IVANOVO, USSR.

UNCLASSIFIED

USSR

ROMANENKO, YU. A., VASIL'YEV, V. P., SIDORCHUK, V. G., and SIDOROV, V. N., Siberian Scientific Research Institute of Geology, Geophysics and Mineral Raw Materials

"Information Reader"

USSR Authors' Certificate No 356663, Cl. G 06k 9/02, filed 7 Apr 70, published 23 Oct 72 (from Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, 1972, p 145)

Abstract: The device contains, situated on the principal optical axis, an objective, a cathode-ray tube, reflecting plates, a semitransparent mirror and a mask optically coupled therewith, a converging lens and a receiver, connected through the control unit to the cathode-ray tube output. To increase the operating speed of the device, the reflecting surfaces of a prism are arranged at a 45° angle to the direction of the main beam and perpendicular to the principal optical axis, parallel to which and at a 45° angle to the direction of the line beam trace, at a distance which is a multiple of the length of the picture line, are mounted reflecting plates for the light of

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USSR

ROMANENKO, YU. A., et al., USSR Authors' Certificate No 356663

the beams of each line, perpendicular to the principal optical axis are mounted reflecting surfaces for the displacement of the line beams, and at a distance and at an angle determined by the constancy of the beam trace length for each line are situated reflecting surfaces for flyback.

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USSR

UDC: 621.396.679.46

GORDEYEV, V. A., NAGORNOV, A. I., VASIL'YEV, V. P., STRYGIN, Yu. F.

"A New Ferrite Commutator"

Moscow, Radiotekhnika, Vol 27, No 7, Jul 72, pp 97-100

Abstract: The paper gives the principle of operation and design of a commutator which utilizes a ferrite with induced unidirectional anisotropy. The results of an experimental check of a pilot model of the proposed commutator are presented, and it is shown that the suggested treatment of the ferrite gives a waveguide commutator which is simple and reliable and can be extensively used as a microwave switch and modulator. Pulse-chain carriers can be modulated with respect to position, amplitude or duration (PTM, PAM and PDM). The advantages of small size and weight make the device attractive for use in navigational and radar equipment on aircraft and space vehicles, as well as in measurement technology.

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USSR

UDC: 621.317.799:621.382.2

VASIL'YEV, V. T., POPOV, V. K.

"A Correlation Instrument for Measuring Noises in SHF Mixer Diodes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 32, Nov 71, Author's Certificate No 316890, Division G, filed 3 Feb 70, published 28 Oct 71, p 132

Translation: This Author's Certificate introduces a correlation meter for measuring noises in SHF mixer diodes. The unit contains a microwave generator, a hybrid connector, and reference and test diode channels, each of which consists of a diode chamber and an amplifier. The device also incorporates a transport mechanism, an integrator, a balance indicator and a meter. As a distinguishing feature of the patent, provision is made for reducing the influence of SHF heterodyne noises on measurement results in the frequency band, and improving measurement precision. Connected to the output of the test diode channel amplifier is the input of a square-law detector whose output is connected through an auxiliary detector to one of the inputs of a subtractor. The other input of the subtractor is connected to the output of the reference diode channel integrator, and the output is

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USSR

VASIL'YEV, V. T., POPOV, V. K., Soviet Patent No 318890

connected to the meter. The input of the microwave generator is connected to the output of a modulator, and an auxiliary output of the test channel amplifier is connected through a controlling amplifier to the regulating input of the reference diode channel amplifier. The controlling amplifier is tuned to the frequency of the modulating oscillations. Priority dates from 7 June 1968.

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USSR

UDC: 531.8

AKSEL'RAD, E. L. and VASIL'YEV, V. V.

"Computing Bellows Loaded by a Bending Moment"

Leningrad, Priborostroyeniye, No 5, 1972, pp 78-83

Abstract: A description is given of the graphical-analytical calculation of single-layered bellows with variable wall thickness, made by the hydraulic method, under a bending load. The basis for this description is a new method for solving equations of the Meissner type on an electronic digital computer. Results of the calculation were compared with experimental data and found to be in good agreement with the latter. The profile of the bellows under consideration is sketched, and the formulas for six dimensionless parameters characterizing the geometry of the profile are given. Computations were done on the Minsk-22, and the results are given in a table, along with the experimental results for comparison. The algorithm for making the analytical calculations on the computer is given in an earlier article by the first author named above (Periodicheskoye resheniye osesimmetrichnoy zadachi teorii obolochek -- Periodic Solution of an Axially Symmetrical Problem in Shell Theory -- Mekhanika tverdogo tela, No 2, 1966). The authors are with the Leningrad Institute of Railroad Engineers.

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USSR

UDC 621.319.4

ALFEROV, A. S., KUSHNIR, F. V., AL'FTAN, E. A., KIRENKO, V. D., VASIL'YEV, V. V., DEGTYAR', L. E., SOLOMENCHUK, L. K., TSAYFER, K. M., ZELIKOVSKIY, Z. I., Leningrad Electrical Engineering Institute of Communications imeni Professor M. A. Bonch-Bruyevich

"An Electrical Device"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311301, Division H, filed 31 Dec 68, published 9 Aug 71, p 188

Translation: This Author's Certificate introduces an electrical device which contains a resistor and a capacitor. The device is made in the form of a stack of sections of microwire and insulation coated with a current-conducting layer, and is equipped with an output. As a distinguishing feature of the patent, in order to reduce the natural resistance and inductance of the capacitor, improve the technological feasibility of the design and reduce cost, the ends of each section of wire are connected to different leads, which may be two or more in number.

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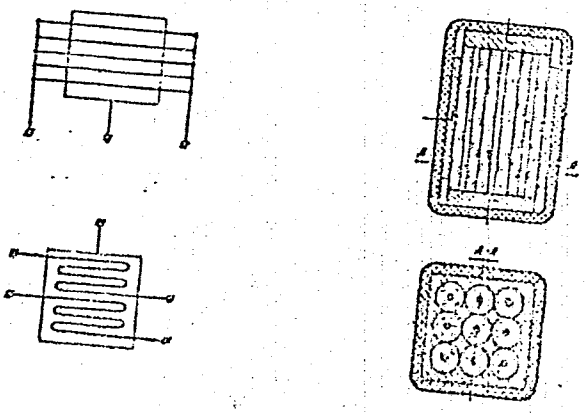
ALFEROV, A. S. et al., USSR Author's Certificate No 311301



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USSR

UDC: 51

VASIL'YEV, V. V., DODONOV, A. G., LEVINA, A. I.

"On a Method of Solving the Traveling Salesman Problem"

Tr. Seminara po metodam mat. modelir. i teorii elektr. tsepey. In-t kibernet. AN USSR (Works of the Seminar on Methods of Mathematical Modeling and Electric Circuit Theory. Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR), 1971, vyp. 9, pp 58-67 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V449)

Translation: A method is outlined for solving the problem of the traveling salesman. The procedure is based on solution of the problem of the shortest path on an expanded graph. Possibilities of reducing the dimensions of an expanded graph are discussed. The method enables simulation of least-dimension problems on type ASOF computers. Authors' abstract.

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USSR

UDC 547.241'244

LIPTUGA, N. I., VASIL'YEV, V. V., and DERKACH, G. I. (deceased), Institute of Organic Chemistry, Academy of Sciences UkrSSR

"Derivatives of Trimethylsilylmethylphosphonic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 293-296

Abstract: Derivatives of trimethylsilylmethylphosphonic acid were synthesized in order to study the physiological properties of organophosphorus compounds containing silicon. The reaction of trimethylsilylmethylphosphonic acid dichloride with alcohols in the presence of ethylene oxide or triethylamine yields mono- or diesters of trimethylsilylmethylphosphonic acid, depending on the ratio of the reagents. With sodium cyanate or potassium thiocyanate, trimethylsilylmethylphosphonic acid dichloride gives the diisocyanate and the diisothiocyanate, respectively, of trimethylsilylmethylphosphonic acid; these react with alcohol and aniline to form urethanes, ureas and thioureas. With aniline, trimethylsilylmethylphosphonic acid dichloride gives the dianilide or the acid chloride of the anilide of the corresponding acid, while reaction with ethylenimine produces the bisethylenimide. Trimethylsilylmethylphosphonic acid dichloride reacts with antimony trifluoride to form the corresponding acid difluoride. The chloride of the ethyl ester of

USSR

LIPTUGA, N. I., et al., Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 293-296

trimethylsilylmethylphosphonic acid reacts with ammonia or aniline to form the corresponding amide or anilide of the ethyl ester. Antimony trifluoride with the chloride of the ethyl ester produces the corresponding acid fluoride. When the acid chloride of the ethyl ester reacts with potassium thiocyanate, the isothiocyanate of the ethyl ester of trimethylsilylmethylphosphonic acid is formed. All the resultant compounds are colorless crystals or liquids.

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1/2 019 UNCLASSIFIED

TITLE--PRIAPISM -U-

PROCESSING DATE--04DEC70

AUTHOR-(02)-GASPARYAN, A.M., VASILYEV, V.V.

COUNTRY OF INFO--USSR

SOURCE--UROL NEFROL 35(1): 65-71, 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SPINAL CORD, REPRODUCTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605016/C12 STEP NO--UR/0606/70/035/001/0065/0071

CIRC ACCESSION NO--AP0140685

UNCLASSIFIED

2/2 019 UNCLASSIFIED

CIRC ACCESSION NO--AP0140685 PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ETIOLOGIC FACTOR RESPONSIBLE FOR HUMAN PRIAPISM IS DISCUSSED. MECHANICAL FACTORS, CHANGES IN THE BLOOD, DAMAGE TO THE SPINE AND SPINAL CORD AND OTHER FACTORS ARE CONSIDERED. THE INCIDENCE OF PRIAPISM AMONG DIFFERENT AGE GROUPS IS EXAMINED. METHODS OF TREATING PRIAPISM, PARTICULARLY THOSE DEVELOPED IN RECENT YEARS, ARE REVIEWED. THERE IS A BIBLIOGRAPHY WITH 108 REFERENCES.

UNCLASSIFIED

USSR

VASIL'YEV, V. V.

"Morbidity of Foundry Cleaners with Temporary Loss of Work Capacity"

Aktualn. probl. professionaln. patologii. Resp. Mezhved. sb. (Current Problems in Occupational Pathology. Republic Interdepartmental - collection of works), 1970, No 1, pp 142-143 (from RZh-Biologiya, No 1, Jan 71, Abstract No 1P997)

No abstract

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USSR

UDC 681.325.65(088.8)(47):513.834

VASIL'YEV, V. V., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Device for the Solution of the Problem of the Maximal Flow in a Network"

USSR Author's Certificate, No 271908, Filed 27 Jan 69, Published 9 Sep 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B411 P)

Translation: A device for the solution of the problem of the maximal flow in a network is being patented. It contains the following elements: models of branches, which are connected together by the first and second terminals in accordance with the topology of the network and which form a model of the network; saturation indicators for the branches, which are also connected together by their own first and second terminals in accordance with the topology of the network and which form an indications network; sources of current and voltage; a flip-flop; AND and OR circuits; a shaper; and a measuring counter. In order to increase the accuracy and resolving capacity of the device, a source of current and an additional model of a branch are connected in parallel between the first and the last terminals of the model of the network. The additional model of a branch serves as an indicator of

USSR

VASIL'YEV, V. V., USSR Author's Certificate, No 271908, Filed 27 Jan 69, Published 9 Sep 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B411 P)

the saturation of the network. The output terminal of this model of a branch is connected to one of the inputs of the flip-flop, the other input of which is connected to the output of the first AND circuits. Its inputs serve as inputs of the pulses of the master clock and the start signal respectively. The first output of the flip-flop is connected to the first input of the second AND circuit, the second input of which is connected via the shaper to the output of an OR circuit; the third input of the second AND circuit serves as an input for the pulses of the master clock. The inputs of the OR circuit are connected to the output terminals of the saturation indicators of the indications circuit and also to the second output of the flip-flop. The output of the second AND circuit is connected to the input of the measuring counter and to the third terminals of the models of the branches, the fourth terminals of which are connected to the third terminals of the corresponding branch saturation indicators of the indications circuit. The input terminal of the indications circuit is connected to the source of the unit voltage. The circuit's intermediate terminals are also connected via resistors to voltage sources.

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USSR

UDC: 537.312.62

BURYLEV, B. P., VASIL'YEV, V. V.

"On the Thermodynamics of Superconducting Materials Based on Refractory Metals of Group V"

V sb. Probl. sverkhprovodyashch. materialov (Problems of Superconducting Materials--collection of works), Moscow, "Nauka", 1970, pp 51-64 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5D557)

Translation: The energies of interchange of vanadium, niobium and tantalum with eighty elements of the periodic table are calculated, giving semiquantitative data on the nature of interaction of refractory metals of group V with various metals and metalloids. The parameters of interparticle interaction are determined from the region of immiscibility on the phase diagram for the systems Nb-Sn, Nb-Zr, Nb-U, Nb-Y and also Ta-Y and V-Y. It is shown that various properties of binary and multicomponent systems based on vanadium, niobium and tantalum can be calculated: vapor pressure, density, atomic volume, coefficient of diffusion, viscosity, etc. One illustration, three tables, bibliography of forty titles. Resumé.

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USSR

VASIL'YEV, V. V. UDC: 621.372.54

"Characteristics of Pin Filters with Folded Pins"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 12, 1970, pp 1411-1415

Abstract: These filters, used in the long-wave section of decimeter and meter wavelength ranges, are folded to reduce their dimensions. Such a system may be considered as a section of uniform two-dimension-periodic, multiconductor lossless line limited by conducting screens in the planes of symmetry. The analysis begins with the solution of the telegraph equations for such a multiconductor line obtained from an earlier paper (Silin, R. A., Raschet mnogoryadnykh shtyrevykh zamedlyayushchikh sistem -- Computing Multisection Pin Delay Systems -- Elektronika, 1958, No. 2, p 3). From this solution are obtained the dispersion equations, and from these are derived the following characteristics of the filters: with more than one section, the filter system has a finite bandpas

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USSR

VASIL'YKV, V. V., Izvestiya VUZ--Radioelektronika, Vol 13, No 12, 1970, pp 1411-1415

with no capacitance; with increasing capacitance, the bandpass narrows sharply; with more sections, the dispersion characteristic shifts to the higher frequency region; the capacitance has no effect on the nature of the dispersion.

2/2

USSR

UDC 669.018.4+537.312.62+541.12.3.2

BURYLEV, B. P., and VASIL'YEV, V. V.

"The Thermodynamics of Superconducting Materials Based on Group V Refractory Metals"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 51-64

Translation: The interchange energy of vanadium, niobium, and tantalum with 80 elements of the periodic table are calculated and used to produce semi-quantitative data on the nature of the interaction of group V refractory metals with various metals and metalloids. The parameters of the interparticle interaction are determined from the area of imiscibility on the state diagram for the systems Nb-Sn, Nb-Zr, Nb-U, Nb-Y, Ta-Y and V-Y.

The possibility is demonstrated of calculating various properties of binary and multicomponent systems based on vanadium, niobium, and tantalum: vapor pressure, density, atomic volume, diffusion coefficients, viscosity, etc.

1 figure; 3 tables; 40 biblio refs.

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USSR

UDC: 621.333.51

VASIL'YEV, V. V., KLEPIKOVA, A. N., CHAPLYGIN, V. L., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Device for Simulating a Linear Programming Problem"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, Jan 71, Author's Certificate No 289422, division G, filed 7 Jan 70, published 8 Dec 70, p 163

Translation: This Author's Certificate introduces a device for simulating a linear programming problem. The device contains a reversible adder and a limiter-diode box which are interconnected. As a distinguishing feature of the patent, the operational process is simplified by adding a target function module. Connected to the inputs of this module are a discrepancy indicator and a unit which indicates linear operation of amplifiers. The output of the target function module is connected to the input of the reversible adder, and the inputs of the discrepancy indicator and the unit which indicates linear operation of amplifiers are connected to the outputs of a reversible linear converter and the linear adder.

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Simulations

USSR

UDC: 681.333.001.57

VASIL'YEV, V. V., CHAPLYGIN, V. L., Institute of Cybernetics, Academy of Sciences of the Ukrainian SSR

"A Device for Modeling Linear Programming Problems"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 31, 1970, Soviet Patent No 283696, Class 42, filed 27 Jun 69, pp 141-142

Abstract: This Author's Certificate introduces a device for modeling linear programming problems. The device contains unregulated voltage and current sources and a series circuit made up of a reversible linear converter, a reversible adder, and a block of limiting diodes. As a distinguishing feature of the patent, the functional possibilities of the device are extended by adding an auxiliary limiting diode block with its inputs connected to the outputs of the reversible linear converter and its outputs connected to one terminal of the unregulated current source, while the unregulated voltage source is connected to the reversible adder input.

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USSR

UDC: 621.374.32

VASIL'YEV, V. V., KMET', A. B., PUKHOV, G. Ye., RAKOV, M. A., Physicomechanical Institute of the Academy of Sciences of the Ukrainian SSR

"A Decade Counter With Variable Scaling Factor"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 10, Apr 71, Author's Certificate No 298074, Division H, filed 23 Sep 69, published 11 Mar 71, pp 193-194

Translation: This Author's Certificate introduces a decade counter with variable scaling factor. The counter contains an input device, memory cell, single-digit counters, and also AND logic elements. As a distinguishing feature of the patent, the unit is designed for obtaining an arbitrary controllable scaling factor. The outputs of the memory cell are connected respectively to the master inputs of all single-digit counters and to the inputs of all AND logic elements for all digital places except the last. The inputs of the AND element for the last digital place are connected to the outputs of all single-digit counters, and the output of this AND element is connected to the reset terminals of the single-digit counters.

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USSR

UDC: 621.372.852.1

VASIL'YEV, V. V., VITYUGOV, V. A.

"An Asymmetric Transforming Two-Terminal Pair Network Based on Coupled Lines as a Matching Element for Opposed-Rod Filters"

Tr. Novosib. elektrotekhn. in-ta (Works of the Novosibirsk Electrical Engineering Institute), 1970, vyp. 2, kn. 2, pp 151-155 (from RZh-Radiotekhnika, No 6, Jun 70, Abstract No 6B211)

Translation: The authors consider the possibility of using a transforming link formed by short-circuited and open sections of coupled lines to match opposed-rod filters. A computational method is given and the validity of the procedure is experimentally confirmed. Six illustrations, bibliography of six titles. N. S.

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USSR

UDC 542.61 + 546.791.4

VASIL'YEV, V. Ya., ANDREYCHUK, N. N., and RYKOV, A. G.

"Extraction of Uranium (IV) From Tributyl Phosphate From Mixtures of Hydrochloric and Nitric Acids"

Leningrad, Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

Abstract: It was shown that the perchlorate ions show a substantial influence on the extraction of neptunium (IV), neptunium (VI), zirconium (IV) and halfnium (IV) with tributyl phosphate (TBP) solutions. Similar results were obtained from the extraction of Uranium (IV) with a 10% solution of TBP in CCl_4 from mixtures of hydrochloric and nitric acids. From figure 1 it can be seen that during extraction from mixtures having the composition [xM HNO_3 + (z-x)M $HClO_4$] the partition coefficient of U (IV) is significantly lower than during extraction from nitric acid. It should be noted that U (IV) is not extracted from $HClO_4$ solutions at $C_{HClO_4} < 6$ M. The change in the absorption spectrum (fggure 2) of U (IV) in the organic phase shows that during the extraction from nitric acid, corresponding to the right side of the curve in figure 1 ($C_{HNO_3} > C^{MAX}_{HNO_3}$), these lines remain constant and

therefore in the organic phase only one form of U (IV) is present. However for extraction from mixtures corresponding to the left side of figure 1 the absorption spectra of U (IV) has several (at least two) forms. Thus both the partition coefficients and the U (IV) species are a function of the $HClO_4$ concentrate.

USSR

VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

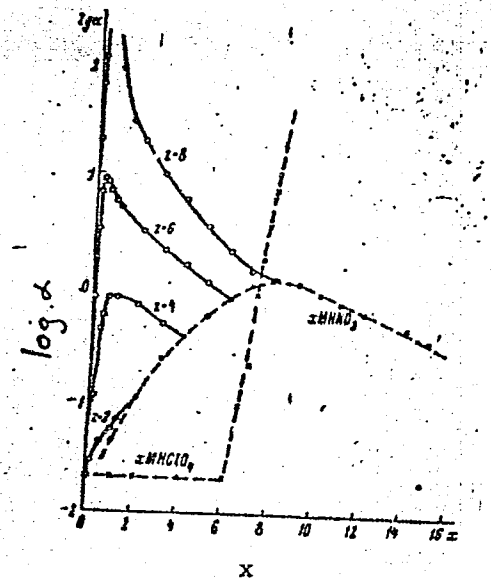

Figure 1 - Partition coefficients α, as a function of acid concentration, x, for HNO_3, $HClO_4$, and mixtures of the form [xM HNO_3 + (z-x)M $HClO_4$] C_U(IV) = 0.05M, t^o = 24±1°C.

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USSR

VASIL'YEV, V. Ya., et al., Radiokhimiya, Vol 14, Vyp 1, 1972, pp 145-146

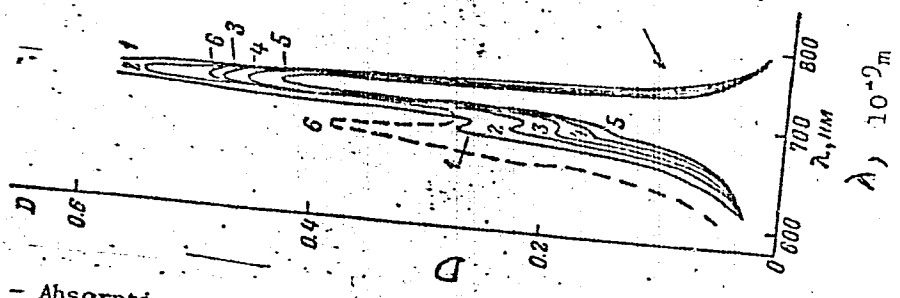

Figure 2 - Absorption spectrum of U (IV) in the organic phase during extraction from the mixture [(8-x)M $HClO_4$ + M HNO_3]. (For spectrum 1, x=0.1; 2, x=0.2; 3, x=0.3; 4, x=0.4; 5, x=1.5; 6, x=0.0)

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USSR

VASIL'YEV, YE. A.

"Use of Integral Characteristics for Recognition of a Clipped Random Process"

Tr. Altaysk. Politekhn. In-ta [Works of Altay Polytechnical Institute], 1973, No 18, pp 10-15 (Translated from Referativnyy Zhurnal Kibernetika, No 10, 1973, Abstract No 10V206)

Translation: A number of problems related to the identification of an automatic control system, recognition of acoustical and electrical signals, can be reduced to the problem of determining the parameters of a system being studied on the basis of the realizations of a random process at its output. It is important here that the measuring device estimating the parameters of the system being identified contain a minimum quantity of equipment and perform the task of analysis in real time. The complexity of the measuring device and the rate of processing of the information are determined to a great extent by the parameters of the random process used as controlling parameters.

One promising trend in this sense is the use of a signal preliminarily transmitted through a device with a relay amplitude characteristic. This work studies problems arising in the realization of this possibility.

Author's view

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